

In re Patent Application of  
PAU ET AL.  
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a second defining unit to define second subdivision blocks of  $N \times N$  pixels as domain blocks, shiftable by intervals of  $N/2^i$  pixels; and

a calculation unit to calculate, in parallel, the DCT of  $2^i$  range blocks of a domain block of  $N \times N$  pixels of the image.

14. (New) An apparatus according to Claim 13, wherein the calculation unit comprises:

B 1 an ordering module to order the pixels in the range blocks of a certain dimension by rearranging input pixels in  $2^i$  vectors of  $2^i$  components;

a first calculating module to calculate, in parallel,  $2^i$  monodimensional DCTs by processing vectors defined by the calculation unit;

a first output module to arrange output sequences of the monodimensional DCTs relative to the  $2^i$  vectors;

a second calculating module to complete the calculation in parallel of  $2^i$  bidimensional DCTs by processing output sequences of monodimensional DCTs produced by the output module; and

a second output module to arrange output sequences of bidimensional DCTs, generated by the second calculating module, in  $2^i$  vectors of bidimensional DCT coefficients.

#### REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application. New Claims 13 and 14 have been added. Claims 5-14 are pending in the